Patent Application of

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for

Golh, Handisk & Basedisk System

of Sky-Ballet Golfrisbee for Course Golh, Snow Golh, Night Golh, Park Golh, Disk Golh

Background Field of Invention

Golh sports are the century sports for the 21st century. The golh, handisk, and basedisk, etc are the new sports derived from our invention golfrisbee. The golfrisbee disk is thrown into the sky and spin fast. The golfrisbee throwing process is more like the sky-ballet. It looks beautiful just like the ballet dancer spinning on the stage. Therefore, we refer the golfrisbee to be the ballet in the sky. Our goal is to have the golh sports to be the Olympic sports.

Golf was invented for several centuries. However, the golf is still not an Olympic sport. It is due to the original golf sport remaining as the sport for the rich people. In the northern cold place,

the golf is limited to be a game during the daytime of the weekend in the warm seasons only. However, in the weekend, many people need to go to church in the Sunday morning. Furthermore, the highflying golf ball is dangerous to people. Due to safety reason, the golfers need to book for the tee-time to play. The rate of the usability of the huge golf course is very low. No wonder the golfing fees are high. Golf becomes the sport for the rich people only.

To change the situation, the golfrisbee is introduced to make the revolution in the golf sport of modern society. Now, the golfrisbee has made the breakthrough in golh technology. It will make the golh sport to be the sport for the people, not for the rich. Based on the innovation of the golfrisbee, many sports are created accordingly such as golh, golfrisbee, basedisc, handisc, basketdisc, tenndisc, waterdisc, etc. A lot of new associations are formed such as Golh Association, Golfrisbee Association, Basedisc Association, Handisc Association, Basketdisc Association, Waterdisc Association, etc as shown in the web site http://www.golfrisbee.com. In the future, since the handisk and ice golfrisbee will be the popular sport for people, golh have the potential to be the Olympic sport. Therefore, the golh will be the first Olympic sports of golf type sports.

Golh is the hybrid golf sport made of flying golfrisbee and the rolling ball. Golfrisbee is to swiveling club to launch flying disk to fly. In golh sport, the long drive adopts flying golfrisbee; the putting adopts the rolling golfball. The golfrisbee has the soft-landing essential characteristics which it can play in the park to be the park sport. In the golh sport, the golfball is strictly limited to roll on the ground such as putting the ball to roll into the hole. Because there is no flying golfball, so golh is relatively safe to be played in the park to be the Park Golh. Even playing in the golf

course, multiple groups of golhers can play at the same hole place without safety concern. Multiple groups of golhers share the golf course price. Golh does not need the tee-time. It reduces the golf course expense a lot.

The golh sports can be further divided to be

(1) Course Golh;

(2) Park Golh;

(3) Disk Golh;

(4) Snow Golh;

(5) Ski Golh;

(6) Night Golh;

(7) Long-Drive Golh;

(8) Basedisc;

(9) Other: such as Handisc, Ice Golfrisbee, Tennidisc, Basketdisc, Waterdisc, etc.

Golh can play in the golf course to be the course golh. There is the technology compatibility between the golfrisbee and golfball. For the course golh, there is no tee-time requirement for the golhers. The golher can play golh in the course any time and any place.

The high-flying golfball is dangerous. There is no golf in the park. However, the golfrisbee is safe, the golher can play golh in the public park. The golh played in the park is the park golh.

Since the park golh and basedisk can play in the public park, the customer base for the park golh is huge.

The basedisk is the conjugate sport of the baseball. Basedisc is to play golfrisbee according to the baseball game rules. The flying disk is the golfrisbee type basedisc launched with the golh club. The basedisc is smaller and heavier than golfrisbee. The basedisk flies as fast as the baseball.

Basedisk is the attacker swiveling the golfrisbee club to launch the disk to fly. The pitcher is no longer needed. The defenders catch the disk and pass the disk to touch the attacker. The rule is the same as the baseball. The flying disk for the golh and basedisk has innovations to fly long-range distance and is safe to operate.

To play the basedisc or golh in the park, we need to have the portable base or portable-putting hole. The golh system pack includes the universal portable putting base for both the basedisc and park golh.

The handisk is the conjugate sport of the football. The handisk is to play the golfrisbee according to the football game rules. The disk is launched to fly with the hand or golh club.

The disk golh is to play the golfrisbee in the disc golf course according to the disk golf rules. On the disk golf course, there are many baskets. The basket is corresponding to the hole in the golf course. Disk golfers throw the flying disk into the basket with the hand. Instead of using hand

throwing disk, the golhers use the golh club to launch the golfrisbee to fly. Disk golh is the golher launching the golfrisbee to fly into the basket directly with the golh club. The hand-throw disk golfers are our potential golh customers.

One of the golh target accounts is the golf course. However, to make the golfers and the golf courses to accept the golh sport, we need to provide the complete golh system package for the golh market strategy. At the beginning, to approach the golf course, the golh market strategy is to take the market share which the golfer cannot play the long drive. There are the places and times which the golfers cannot play the long drive such as the park, snow course and the time in the night. The golh can play the long drive in the golf course during the darkness in the night. To differentiate from the golf having no long driving capability, we mention the new snow golf and the new night golf having the long drive capability with golfrisbee to be the park golh, snow golh and night golh. To make the golfers and golf courses accept the golh sport, we promote the night golh and snow golh. The night golh and snow golh can have the long drive with the flying golfrisbee and the putting with rolling golfball. The snow golh and night golh do not conflict with the existing golf sport activities. The snow golh and night golh can do the time sharing with golf for the golf course.

Night golf is to play golf in the night. Night golf is the golf sport in the southern hot desert places. Why there is the need for the night golf ? The first reason is that it is too hot to play golf during the daytime for the cities in the desert such as Las Vegas. The golfer has to wait until the temperature being cooled down in night. The night golf is the only golf which can be played in the hot desert. The second reason is that, in the weekdays, after the business hour, it is already 6 p.m. It becomes dark. If the golfer wants to play golf in the weekday, the night golf is the only choice.

However, it is difficult to find the long drive flying golfball in the night. The night golf is limited to be putting only!

On the contrary, the snow golh and ski golh are the golf sports for the northern cold places. Snow Golf is the conjugate of the night golf. It is the golf in the cold northern snow winter season. In 1893, the father of snow golf, Rudyard Kipling, started to putt the golf ball into the tin can. In 19th century, the USGA (United States Golf Association) already set the game rule for the snow golf. However, the snow golf cannot keep the snowy golf course to operate in the winter. After 110 years, the snow golf still cannot play the highflying golfball game. It is impossible to have the long drive of the golfball in the snowy golf course. It is hard to find the golfball in the white snowfield. Therefore, the snow golf and night golf have the putting only.

Today the snow golf and the night golf already have the special rules and means. Both are the in-door golf activities to putting the golf ball to roll into the hole only. To have the long drive in night golf or snow golf, the LED and buzzer has to be installed on the golfball. However, as the golfball is hit with the impact of the golf club, the impact force will destroy the LED and buzzer. As the highflying golfball falls on the ground, the impact force will destroy the LED and buzzer installed in the golfball, too. Therefore, it is impossible to mount any signal indicator device on the golfball.

Why does the golf cost so much? The long drive of the golfball causes all the problems. (i) The highflying golf ball is very dangerous that the golf cannot be played in the public park. It can only be played in the private golf course. Even in the private golf course, the highflying golf ball of the multiple groups of golfers will hit on each other and hurt each other. The golf cannot

have multiple groups playing at the same time. For the safety reasons, golf has the 'tee-time' regulation. There is booking for the tee-time. At any time, only one group can play at one hole place of the golf course.

(ii) The long drive of golf cannot be played in the winter snow course. On the thick snow, there is no solid ground to place the tee. The golf ball has to be played on the snow directly. As the swiveling golf club hits the ball, the snow powders will sprays everywhere that you can not see where the golfball flies. Even worse, as the highflying golf ball falls on the snow, the golf ball punches the snow pile and is buried in the snow. The golf ball disappears in the snow golf course. The golfer never can find the golf ball again until the snow melts in the next spring. So, there is no long drive in the snowy golf course. The golf course needs to shut down in the snowy winter season.

In 1893, the father of snow golf Rudyard Kipling introduced the snow golf which only had the putting golf ball to roll on the small area snow-clean ground activities. The snow golf does not have the long-range highflying golf ball activities. The snow golf is only in-house activities. It is no more the golf sport in the open field. The snow golf only has the putting activity. The snowy golf course still needs to shut down and lay off their employee. In the winter season, the snow golf only has the putting golf ball to roll into the hole activity. The golfer can putt in the house, not in the golf course. Today golf sport cannot play in the snowy golf course. In the winter season, the golf course is filled with snow. The highflying golf ball falls on to the snow and buried under the snow. It is impossible to find the golf ball that the golf game cannot play in the snowy golf course in the winter season. The golf course has to be shut down in the winter. The employee is laid off for 3 months to half year. The golf course lost a lot of money.

(iii) The golf ball is hit by the golf club seriously. As the high flying golf ball falling and hitting on the solid ground, the impact is seriously. Even LED embedded in the golf ball will be destroyed in the hitting and impact processes. So, there is no night golf. Since the golh club launches the sky-ballet golfrisbee as the human hand throws the flying disk. The soft-landing is the essential characteristics of the flying disk. So, there is no impact force applying to the flying disk in both the launching and landing process. We may embed the LED light in the sky-ballet golfrisbee to have the Night Golh.

The long drive of the golfball causes no night golf, no snow golf, no park golf and booking for tee-time. It causes the usage of the golf course to be low. In the park, the city government pays the "green fee." In the private golf course, the golfers need to pay the green fee for the green grass. It causes the high operation cost of the golf course.

The Golh adopts the flying disk to solve the snow golf problem.

(1) For the long drive of golh, there is no hitting impact force during the launching golfrisbee process. As the golfrisbee falls on the ground, the golfrisbee has the soft-landing characteristics. The golfrisbee has the enough lift force to carry the miniature LED, buzzer and battery. So, the LED and buzzer can be installed on the golfrisbee. The light and sound will lead the golher to locate and find the golfrisbee in the dark or in the snow very quickly.

(2) The sky-ballet golfrisbee is mounted on the golfrisbee club to launch to fly. The golfrisbee club does not contact with the snow powder at all. Therefore, the golher can see where the sky-ballet golfrsibee flies and lands.

(3) Due to the soft-landing of the sky-ballet golfrisbee, the sky-ballet golfrisbee will land on the top of the snow. The golher can identify the sky-ballet golfrisbee in the snow golf course easily.

(4) Due to safety of golfrisbee, the golf course can be as compact as a small park. The 18 hole paths can be folded as a net. The compact golf course can be located in the residential area, which is closed to the golfer customers. It is convenient and safe for the night golfer.

Since the golfrisbee has the sound device and light device, the snow golh and night golh has the long Drive capability with golfrisbee. The golh can be played in the snowy golf course to be snow golh. The snow golf course just needs to blow the snow away from the putting hole area to clean out a small area for putting the golfball. With the golh, the snowy golf course can continue operating in the winter season.

The golfrisbee can be played in the snowfield to be the ski golh. The ski golh is to play the golh with the cross-country ski. The snow golh and ski golh are referred as white golh. With the golfrisbee, in the shiny sunshine, the golher can play the white golh. The white golh has the different taste from the green golh. To play the white golh, we need to provide the auxiliary equipment. The complete system package includes the golh cart equipped with ski to play the ski golh.

Both snow golh and night golh have the highflying disk activity. Using the sky-ballet golfrisbee, the snow golh and the night golh have the complete golf course activity. The golh can boost up the golf course's income a lot. Definitely, the golf courses will welcome the golh for their own benefit – the golf course's income. Due to the night golh, the golf course can operate at night in the weekday or in the hot desert. With the night golh, the golf course can continue operating during the night. After the office hours, the businessperson can eat dinner in the restaurant of the golf course. Then go to play the night golh. Due to the snow golh, the golf course can operate in the snowy winter. With the golh, the golf course can increase the operation time and no shutdown in the snowy winter. The golh can boost up the economics of the golf course. The golf courses definitely encourage the golfer to adopt the golh club to play golh after it becoming dark or snowy. This is the win-win solution for the golf course and the golhers. It reduces the golher's cost a lot, too. The member fee of the golf course will worth more. The golf course will sell the golh club and golfrisbee and encourage all the golfers to play golh in the night or in snowy course in the days. To encourage the golfer to play the golh, they will allow the golhers to share the same course and no tee-time!

However, the night golh and the snow golh have the tough times and tough places to play. Therefore, we make the innovation in the golh system pack to meet the challenges of all the tough environments. We make the innovation in golh system technologies based on our invention of golfrisbee. We integrate the technologies and make the innovation in system integration to meet

the technical challenges in park golh, night golh, ski golh and snow golh to promote the golh sports.

Eventually, as the golhers' population increases, the golh will be the dominant sport in the golf course. To play the golh in the golf course, the golh and golfrisbee technologies have to be compatible with the golf and ball technology. The swing of golh club is similar to the swing of golf club. The long-drive flying distance has to be compatible. As shown in the following table, the long drive flying capability of golfrisbee is about the same as flying golfball.

Technology Compatibility between Golfrisbee & Golfball

	Golfball	PDGA Disc	Aerobee Disc
the long drive record	1200 ft.	712 ft.	1257 ft
average	900 ft.		

Now the flying disk technology is comparable with the golf technology. The long-drive champion record for the golfball is about 1236 feet. The hand-throw Aerobee Ring has the flying range record to be 1257 feet. Therefore, the golfball and flying disk can be compatible to share the same golf course. Furthermore, we make the innovation for golfrisbee - the sky-ballet golfrisbee. The sky-ballet golfrisbee will make the flying disk flying better – higher and longer. With the sky-ballet golfrisbee, golh club and professional training with the golh swing trainer, almost all the people can launch the golfrisbee as well as and as far as the long drive of golf balls. From the

following table of comparison, eventually the golh sport will be the dominant sport over the golf sport.

Comparison Table for Golf & Golh

Place/Time \ Sport		Golf	Golh/Golfrisbee
Golf Course	Tee-Time	Required	Not Required
	Cost	High	Low
City Park		Cannot Play	Can Play
Night		Only Putting	Long Drive & Putting
Weekday After Hours		Cannot Play	Can Play
Desert			
Snow Golf		Only Putting	Long Drive & Putting
Snow Golf Course		Cannot Play	Can Play
Snow Field			
Ski-Golf			
Disk Golf Course		Cannot Play	Can Play
Basedisk		Cannot Play	Can Play
Handisk, etc			

Furthermore, the way of golh swing is different from the way of golf swinging. There is the golh swing trainer to train the golfer to be the golher.

In golf, from long drive to putting, the golfer changes from wood club to steel club. The golfball does not change.

In golh, from long drive to putting, the golfer changes from golfrisbee to golfball.

Golh is to introduce a complete system pack solution to the existing golf and flying disk problems. It offers the solution for the snow golf, night golf, park golf and disk golf. One unique golfrisbee disk will fulfill all the different tough requirements of the different golf sports. In addition, we need to provide the system pack solution.

The screw system of the golfrisbee cannot allow the dirt or sand to attach to it. We need to have the field cleaner to clean the sand and dirt away. Comparing with golf, the golh is a high-tech sport. To play good, you need to understand the mechanics, aerodynamics, etc. The most difficult problem is the initial static friction/stick force problem during the sky-ballet golfrisbee launching process. To swing consistently, each time the fit cap of the sky-ballet golfrisbee needs to be cleaned with blowing air and applied with lubricants of different viscosity. The static friction controller contains the compression air and lubricant.

The snow golf course and night golh courses are the tough play environment. We need special golh equipment for the snow golh and night golh. To play the snow golf in the snow golf course, there are other issues needed to be addressed. To play the snow golf in the field, it is impossible to drag the heavy golf bag to walk on the soft snow in the cold windy golf course. We need a specially designed golf cart to carry the bag and the golfer altogether.

To carry the heavy golf bag to walk on the soft snow is not an easy job. For the golf course in the desert of Las Vegas, the snake and animal will come out in the night. We need to minimize the hazards in the snow golh and night golh. The golh bag is integrated with the personal portable golh cart. The golher can ride on the personnel portable golh cart in the golf course to minimize the hazards and speed up the play. As he arrives the disk-landing place, he can step down the golh cart, pop the support stick to support the golh cart as the standing golf bag. The golh cart will serve as the standing bag as you play the golh. As the golher launches the sky-ballet golfrisbee disk, the golher can immediately step on the golh cart to run after the flying disk.

Background-Description of Prior Art

Golf is the national sport of US. It is the representative sport of the capitalism. It is the rich people's sport. However, it becomes the critics and hatred target of the poor people in the world. Before, we do not care. After 911, we must consider that it is time for us to change the style of the golf sport. After 911, all the Americans are confused why the other worlds hate us so much? Golf sport is the representative for the hatred and is attacked by the outside western and well-developed countries. For the poor people, the golf is the rich people's sport. One-round of 18-hole play cost at least $30.00, even more. It is the month living fees of the poor people. With the addition of the caddy's fee, the poor people cannot imagine to join the golf sport in all his life. No wonder the golf represents the wealthy people's sport to be the hatred for the poor people. Due to the hatred caused by envy, even the golf sport is so popular in US, however, the golf is still rejected to be the sport of the Olympic sport.

The snow golf is popular in the northern snowy place. The night golf is popular in the southern desert place. In the desert, it is very hot in the day. So, the night golf becomes popular. Both snow golf and night golf have golf limited to putting. There is no highflying golfball activity in the snow golf and night golf. The golfer cannot play the long drive in the nighttime or snowy field. As the golf club head hits on the golf ball, the LED, buzzer and battery embedded in the golf ball most likely will crack. As the highflying golf ball hits on the solid ground, the LED, buzzer and battery most likely will crack.

Both basedisk and golh are the new sports based on the innovation of the golfrisbee. The basedisk is the golfrisbee adopting the baseball game rule. The golh is the hybrid sport constituted of the flying golfrisbee and rolling golfball. The golh can play in the park to be the park golf. Golh is the park golf which is safe to play in the park. It is invented for the Olympic golf sport. You cannot play the golf in the park. However, you can fly disk in the park. The golh can be played in the park as the flying disk being played in the park. As the object flying in the sky, it is the flying disk. As the object rolling on the ground, it is the rolling ball. From long drive to putting, the golher changes the golfrisbee to be the golfball. In golh, the golher does not change club. The same club can either launch the golfrisbee or putt the golfball. The LED and battery can be embedded in the flying disk. Because the golh club does not hit on the flying disk and the flying disk has the soft landing, the LED and battery will be left unharmed. You can play golh in the snow golf course. The flying disks will softly land on the top of the snow pile.

Furthermore, the golh can have the multiple groups to share the golf course at the same time. The multiple groups share the same tee-time. There is no need to reserve the tee-time anymore.

Golh reduces the cost a lot for the member and increases the income of the golf course. It is the new golf standard which can play the golf in the snowy golf course. For the golh and basedisk sports, the golfrisbee completely changes the world value about the golf with the flying disk technology. It will save the American from the hatred and attacks of the terrorism.

Golh will save the golf course in the winter season. The golf course can continue operating in the winter season. Accordingly, the innovations of golh and golfrisbee are not only in the golf technology and flying disk technology but also in the way of sporting system integration. Without the innovation of the sporting system integration, the golh sport will not be functional properly.

The golh is technologically compatible to golf. The long drive of flying disk is compatible to the long drive of golf ball. The Guinness World Record set Aerobie Pro Ring (US patents 4,560,358 and 4,456,265) to be the world's farthermost thrown object 1,257 feet. Actually, it is not the dome-shaped flying disk. It is a flat plate with ring shape. There are two reasons for the ring plate structure to be the farthermost thrown object. The first is the thin profile of the ring plate; the second is the long-range stability. The thin profile has the low drag force. The long-range stability is due to the side edge stability of the spoiler rim to keep the straight flight. However, the side stability causes the Aerobie Ring not having the dogleg curving flying capability. The dogleg flying capability is emphasized in the disk golf course. Furthermore, the inclined edge of the spoiler rim induces the drag at the front and end edges that the throwing distance is reduced. The thin plate without the proper protection. It easily hurts the other people. The flat plate ring is not safe to play in the park.

To make the flying disk have the thin profile is not easy. The Aerobie Superdisc is the flying disk version of the Aerobie Pro Ring. However, Aerobie Superdisc no longer keeps the thin profile of the ring structure. The Aerobie Superdisc has the inclined curved edge with the dotted surface to increase the friction for handholding. At the edge, it has the spoiler rim for stable flight. The spoiler rim is more like the upright directional wing of the airplane or the damping board of the boat. However, it induces many other drawbacks. At the leading edge, the spoiler rim will induce the separation of the boundary layer on the top of the flying disk. At the tailing edge, the spoiler rim will induce the separation of the flow from the soft cushion tail fin. Comparing to the Aerobie Pro Ring, the hand-thrown distance of Aerobie Superdisc is reduced a lot.

The US patent 4,568,297 of Innova disk has the flying range of 712 ft. It is a flying disk approved by the Professional Disc Golf Association (PDGA). The hand-thrown flying disk has the vertical sharp edge for handholding. The sharp vertical straight edge introduces a lot of drag. Outside the vertical sharp edge is the triangular design of the supersonic airfoil. However, the hand-thrown flying disk is always operating in the subsonic speed range. It is not a correct design for the front edge. The triangle is tilt upward. It is not correct design for the tail end, either. The speed of flying disk is much less than the sonic speed. For the subsonic airfoil design, it does not need the triangle. At the head side, the sharp edge does not have the supersonic effect. However, at the tail side, the vertical edge and the upward slope of the triangular design causes the separation of the airflow from the tail fin. It induces a lot of drag to the flying disk. Due to the vertical sharp-edge, Innova Disk has to be thrown horizontally. Even worse, the sharp edge of triangular design causes the Innova disk to be unsafe for the park sport. Originally, the flying disk has the benefit to play in the park safely. However, the Innova disk destroyed the park sport benefit. The Innova

disk is small and heavy with the sharp edge. The Innova disk is dangerous to the public that it cannot be played in the public park. Just like the golf ball is forbidden in the park, the disk golf is forbidden in the park, too. The disk golf is no more a "park sport." Just like the golf, the disk golf needs to play in the "disk golf course."

The drag force determines the flying distance. The wobbling phenomena and the abrupt shape are the most important two aerodynamic drag factors. To eliminate the wobbling, the structure of golfrisbee is symmetrical. To reduce the drag force, the golfrisbee shape is further smoothened. The essential difference between the sky-ballet golfrisbee and the conventional hand-thrown flying disk is that the sky-ballet golfrisbee gets rid of all the sharp edges. It has no edge at all. The sky-ballet golfrisbee has the dome shape smooth design in its middle portion. The sky-ballet golfrisbee with the skirt is safe to play in the park. It is the only flying disk having both the thin profile of the ring structure and the dome shape of the flying disk. The golfrisbee is launched with the golf club. The screw of club head is about half turn only. It makes the sky-ballet flying disk being able to have very thin profile. Since the sky-ballet golfrisbee is not thrown with hand, it has no edge designed for the hand holding and throwing. The sky-ballet golfrisbee is launched with the golh club, it does not need the hand holding vertical edge of flying disk. It has the smoothly curved design in the middle portion of the bottom of sky-ballet golfrisbee. The skirt introduces the side stability without the loss of the dog-leg fly capability. The skirt further has the bumper design to play safe in the park. Furthermore, the skirt serves as the bumper to protect the people from being hit. The skirt made of the foam material has the opening space between the golfrisbee main body and the skirt. The skirt of the golfrisbee has the function of the long range stability of the spoiler rim; however, the skirt does not have the drag caused by the spoiler rim.

Theoretically, the farthest distance comes from throwing angle at 45 degrees, not throwing level. The sky-ballet golfrisbee has no edge that it can launch at any angle. With the aerodynamic smooth airfoil design, thin ring structure and launching with the golh club, the sky-ballet golfrisbee will be the new Guinness World Record to set sky-ballet Golfrisbee to be the "Manpower throwing" World's farthest thrown object.

The golh needs to play as the snow golh and the night golh. It is impossible for the golher to pull the golf trolley in the deep snow. It is extreme dangerous to walk in the dark field. The golh cannot use the existed golf facilities to play the snow golh or night golh. The golf never plays in the snow field or the dark field. The golf cart, golf trolley or golf bag is not designed for the snow golf or night golf. The golf cart is a four wheels electrical car. The golf trolley cannot carry golfer. The golf bag is too heavy to be used on the soft snow. Therefore, the golf cart or golf trolley is not capable to work in the snow field and the dark field. In the snow field and the dark field, the golh trolley has to be integrated with the golh cart and be able to carry the golher. The Dean L. Kamen et al's patents US5, 971,091 Transportation Vehicles and Methods and US6,302,230B1 Personal Mobility Vehicles and Methods do not have the trolley function of golh cart. Our new innovative golh cart is unique to have the multiple functions of the golh bag, golh trolley and golh cart. The golh cart is similar to the two-wheel golf trolley. However, the golher can ride on the golh cart.

The golf swing trainer provides guidance for the path of the swing of the golf club. Our golh swing trainer not only guides the swing path but also guides the swing speed and swing acceleration. The golher swing trainer integrates both the weight training and swing training in the same swing trainer.

Objects and Advantages

The sports of golh, snow golh, ski golh, night golh, park golh, disk golh and basedisk are the golh sport family which is derived from our invention of the sky-ballet golfrisbee. We provide the complete system packs solution for the golfrisbee sport family. The system pack includes the sky-ballet golfrisbee, golh club, portable hole base, static friction lubricant, swing trainer, self-lock golh bag, and golh cart. The cost of golh and basedisk are reduced with the integrated manufacturing process. It becomes the sport for the people. The golh, ski golh and basedisk, etc will be the first golf type sports to be the official Olympic Sports and Winter Olympic Sports.

Drawing Figures

FIG. 1 is the sky-ballet golfrisbee; (A) is the side view of the golfrisbee disk; (B) is the right-hand golfrisbee club; (C) is the left-hand golfrisbee club.

FIG.2 is the section view of the sky-ballet golfrisbee; (A) is the side section view of the golfrisbee disk; (B) is the section view of the right-hand golfrisbee club; (C) is the section view of the left-hand golfrisbee club.

FIG.3 is the section view of the sky-ballet golfrisbee as shown in FIG.1A; (A) is the bottom view of the sky-ballet golfrisbee taken at the horizontal line X-X in FIG.3B; (B) is the horizontal section view of the sky-ballet golfrisbee taken at the horizontal center line in FIG.3A; (C) is the vertical section view of the sky-ballet golfrisbee taken at the vertical center line Y-Y in FIG.3A.

FIG.4 is the section view of the sky-ballet golfrisbee having the punched through fitting cap and the wing segment with the adjustable angle of attack ; (A) is the bottom view of the sky-ballet golfrisbee taken at the horizontal line W-W in FIG.4B; (B) is the horizontal section view of the sky-ballet golfrisbee taken at the horizontal center line in FIG.4A; (C) is the vertical section view of the sky-ballet golfrisbee taken at the vertical center line Z-Z in FIG.4A.

FIG.5 is the section view of the sky-ballet having the ring shape; (A) is the bottom view of the sky-ballet golfrisbee; (B) is the horizontal section view; (C) is the vertical section view.

FIG.6 is the section view of the sky-ballet golfrisbee with the exchangeable cap and weight-balanced design; (A) is the bottom view of the sky-ballet golfrisbee; (B) is the horizontal section view; (C) is the vertical section view.

FIG.7 is the golfrisbee static friction controller which has the functions of air compressor, air cleaner and lubrication; (A) is the golfrisbee static friction controller at the idle position; (B) is the golfrisbee static friction controller in the air compression mode; (C) is the golfrisbee static friction controller at the air cleaning mode; (D) is the golfrisbee static friction controller in the lubrication mode.

FIG.8 is the airfoil shape of the golfrisbee wings; (A) is the section view of an airfoil for the lift-upward motion with right hand rotation; (B) is the section view of an airfoil for the lift-up motion with left hand; (C)) is the section view of an airfoil for the lift-upward motion; (D) is the section view of an airfoil for the diving-downward motion with right hand rotation; (E) is the section view of an airfoil for the diving-downward motion with left hand rotation; (F) is the section view of an airfoil for the diving-downward motion;

FIG.9 is the two-wheel golh trolley; (A) is the two-wheel golh-pulling trolley; (B) is the integrated two-wheel golh trolley with the golh bag; (C) is the ski type golh trolley; (D) is the belt type golh trolley.

FIG.10 is three-wheel type foldable and portable personal golh cart; (A) is the side view of the personal golh cart; (B) the personal golh cart stands as standing bag; (C) is the back view of the personal golh cart; (D) is the side view of the personal golh cart having the snow ski; (E) is the personal golh cart having the snow ski stands as stand-up bag; (F) is the back view of the personal golh cart having the snow ski.

FIG.11 is two-wheel type foldable and portable personal golh cart; (A) is the side view of the personal golh cart; (B) is the personal golh cart stands as standing bag; (C) is the back view of the personal golh cart; (D) is the side view of the personal golh cart having the automatic ski capability; (E) is the personal golh cart having the automatic ski capability and also serving as standing bag; (F) is the back view of the personal golh cart having the automatic ski capability.

FIG. 12 shows the operation of the automatic ski system; (A) is on the hard ground, the ski is not engaged with the ground; (B) is the detailed mechanism of the automatic ski not engaged with the ground as shown in FIG.11A; (C) is on the soft ground, the ski is engaged with the ground; (D) is the detailed mechanism of the automatic ski engaged with the ground as shown in FIG.11C.

FIG. 13 shows the operation of the fast installment of the ski shoes of the golh cart; (A) is the shaft of wheel fed into the notch on the ski frame; (B) is the shaft of wheel fed into the guided slot of ski shoe; (C) the lock plate is closed to have the shaft of wheel sealed in the slot; (D) the hook of the spring is mounted on the shaft to have the automatic bias of the automatic operation of the snow ski.

FIG. 14 is the snow ski having the elongated guiding slot to have snow ski to be packed.

FIG.15 is the snow wheel; (A) is the snow wheel rolling on the solid ground; (B) is the snow wheel rolling on the snow.

FIG. 16 (A) is the section view of the integrated waterproof LED light for sky-ballet golfrisbee; (B) is the top view of the integrated waterproof LED light for sky-ballet golfrisbee.

FIG. 17 (A) is the section view of the integrated waterproof sound generator for sky-ballet golfrisbee; (B) is the top view of the integrated waterproof sound generator for sky-ballet golfrisbee.

FIG. 18 is the partial section view of the self-locked golh bag; (A) the cap of the self-locked golh bag is in the locked position; (B) the cap of the self-locked golh bag is uncapped and is self-locked at the bottom of the bag.

FIG.19 is the portable base for the golh putting and basedisc.

FIG.20 is golh super swing trainer; (A) is the isometric view of the golh super swing trainer; (B) is the side view of the golh super swing trainer; (C) is the guide implemented with the gear for the golfrisbee club; (D) is the guide implemented with the steel rope for the golfrisbee club.

FIG.21 is the golh simulator.

FIG.22 is the working flow of the golfrisbee disk and golfrisbee hut; (A) the module process for golh club and golfrisbee; (B) the assembly flow for the golh club and golfrisbee.

Description and Operation

The golh is the long drive of golf playing with the disk. The flying distance of the golfrisbee is compatible with the golfball. For the conventional flying disk, the flying distance is much less than the golfball. Therefore, the golfrisbee has the special design to have the long range flying capability. All the shape of the sky-ballet golfrisbee has the streamline design for integrity. There is no abrupt line segment or sections as most of the flying disk and ring do. With the golh club, it will be the human power farthest throw in the world to be the new Guinness world record. Furthermore, the golfrisbee is designed to be safe to play as the conventional flying disk does.

As shown in FIG.1, it shows the set of the sky-ballet golfrisbee. The golfrisbee has two kinds of design. As shown in the FIG.3, it shows the helicopter type wing segment 17. As shown in FIG.5, it shows the UFO type design. The sky-ballet golfrisbee 1 has a skirt 16. The skirt 16 has several functions.

(1) It serves as the bumper to protect both human and the golfrisbee itself. The skirt is made of the soft material such as foam rubber. The skirt 16 has the skirt hanger 161 extended into the sky-ballet golfrisbee body.

(2) The skirt 16 serves as the stabilizer at the side of the golfrisbee for the long range flight . At the front of the golfrisbee, the skirt 16 serves as the guiding slot to guide the air flowing above the golfrisbee. It reduces the drag force at the front end. This design is the subsonic airfoil design. It is completely different from the Innova Disk. The Innova Disk has the triangle front end being the supersonic airfoil design. However, for the supersonic wing operates at the subsonic speed, it induces a lot of drag force.

(3) At the tail of the golfrisbee, the skirt 16 guides the airflow to wash downward to increase the lift and drifting distance.

On the contrary, in the Innova patent, the design of triangle rim will cause the air flowing upward, instead downward. It reduces the airlift force of the flying disk.

FIG.1B is the right-hand golh club 2R; FIG.1C is the left-hand golh club 2L. The weight 23 is to train the golher to develop the golh muscle. The slot 231 is to have the weight 23 to be mounted on the golh club. The fixed handle is located at the end of the golh club. The sliding handle 21 is to have the natural slow-to-fast swing movement. The slot 211 is to have the sliding handle to be mounted on the golh club.

FIG.2 is the section view of the sky-ballet golfrisbee and the golh club. The sky-ballet golfrisbee is in the UFO shape with right-handed cap 13R and left-handed cap 13L. This is the basic model of the sky-ballet golfrisbee 1. Due to the co-existence of the caps 13R and 13L, the weight of sky-ballet golfrisbee 1 is well balanced. Due to the weight balance, it does not have the wobbling phenomena that the sky-ballet flying distance is much longer than the unbalanced flying disk. Furthermore, the caps 13R and 13L are embedded in the sky-ballet body itself. Since the cap 13R and 13L are located at the rim. To embed the cap 13R and 13L in the body of the sky-ballet golfrisbee, the rim of the sky-ballet golfrisbee has the ring band structure. It reduces the aerodynamic drag force that the sky-ballet golfrisbee can fly longer and further. The left-hand screw 34L is fit in the left-hand cap 13L; the right-hand-screw 34R is fit in the right-hand cap 13R. Except the left-hand screw 34L, the structure and operation of the left-hand golh club 2L are the same as the right-hand golh club 2R.

The right-handed screw 3R has the screw 34R notched on its top end. The bottom of the right-handed screw stub 3R is pivotally mounted in the club head 36. The screw 3R is locked with the locking screw 35. For one fixed cap 13R, the rotation of screw 3R determines the launching position on the swiveling circle of the swiveling golh club 2R. To launch the golfrisbee with golh club properly, the allowance of angle of the screw 3R rotation is only 5 degrees.

The extension club locker 22 is optional. To adjust the length of golh club, the golh club has two segments. Releasing the extension club locker 22, the lower segment 2L is slidable in the upper segment 2U. Locking the extension club locker 22, the lower segment 2L is locked in the upper segment 2U. The length of golh club is adjusted to be the ideal club length of the golher.

The rotational motor 70 is optional. As use the rotational motor, the locking screw 35 is released to allow the screw 34R to have the free rotation. The rotation motor index 71 is the stopping position of the rotational motor 70. The battery 5 embedded in the handle is to supply the power to the rotation motor 70. The switch 51 is to turn on and turn off the rotation of the rotation motor 70. There is turn-on process and turn-off process. For the turn-on process, the battery power is first on, and then the rotation motor 7 starts to rotate. For the turn-off process, the motor rotator first stops the screw 34R at the position prescribed by the index 71. Then the battery power is shut down.

Swiveling the golh club to launch the golfrisbee, the golfrisbee rotates on the golh club with the golh club head being the pivotal center. It builds up the angular momentum. The rotational

radius is large. As the golfrisbee takes off, the center of rotation is at the center of the golfrisbee. The rotational radius becomes small. According to the conservation of angular momentum, the rotation speed of the golfrisbee will become faster. The effect is similar to the ballet dancer shrinking her hands in front of her chest to speed up the spin speed. Therefore, the golfrisbee is referred to be the sky-ballet golfrisbee. To increase the sky-ballet effect, the ring band mass is reduced and the center mass is increased.

FIG.3 shows the alternative design of the sky-ballet golfrisbee. As shown in FIG.3, the hole 42 in the ring band is to reduce the weight. The center weight 12 is added to the center of the sky-ballet golfrisbee to increase the sky-ballet effect. The center weight 12 is constituted of the weights 120, 124 the screw 122 and the nut 123. For the night golf and/or snow golf, the weight 120 and/or 124 can be either the light source and/or the sound source. As shown in FIG.16, the weight 120 is the light source for the night golf. The screw 122 passes the hole 1203 to hold the light 120 to the sky-ballet golfrisbee 1. The light source 1200 emits the light in the night golh to guide the golher to locate the sky-ballet golfrisbee. To save the power, the light sources are LED. The LEDs have different colors. As the golfrisbee rotates in the night, it has the rainbow in the dark sky. The switching button 1201 can be pushed to shut the battery power. The switching button can be capacitor type that the seal of 1201 can be solid. The battery and the switching circuit 1202 are to supply the power and light control to the light source 1200.

As shown in FIG.17, it shows the sound source 124 is to add the weight at the center of the sky-ballet golfrisbee. The screw 122 passes the hole 1243 to hold the sound source 124 to the sky-ballet golfrisbee 1. The speaker 1240 generates the sound to guide the golher to locate the sky-

ballet golfrisbee. The switching button 1241 can be pushed to shut the battery power. The switching button can be capacitor type that the seal of 1241 can be solid. The battery and the switching circuit 1242 are to supply the power and light control to the light source 1240.

As shown in FIG.8, to have the video, audio effect, enhanced sky-ballet effect and the curved flying capability, the sky-ballet golfrisbee is modified to be the helicopter type sky-ballet golfrisbee. The wing 17 has many different wing segments to modify the curved flying path of the sky-ballet golfrisbee. As shown in FIG.8A, the wing 17 having the segment 17a is for the right-hand golh club to have the curved up flying path. As shown in FIG.8B, the wing 17 having the segment 17b is for the left-hand golh club to have the curved up flying path. As shown in FIG.8C, the wing 17 having the segment 17c is for the left-hand golh club or right-hand club to have the curved up flying path. As shown in FIG.8D, the wing 17 having the segment 17d is for the right-hand golh club to have the curved down flying path. As shown in FIG.8E, the wing 17 having the segment 17e is for the left-hand golh club to have the curved down flying path. As shown in FIG.8F, the wing 17 having the segment 17f is for the left-hand golh club or right-hand club to have the curved down flying path.

As shown in FIG.4, the golfrisbee has the universal wing 17a. The wing segment 17a can adjust the angle of attack to change the flying path of the golfrisbee. The wing segment 17a has the short stub 17b pivotally fit in the golfrisbee body. Changing the angle of the attack of the wing segment 17a, the lift force of the golfrisbee will change. The flying path of the golfrisbee will change accordingly.

There are many different versions of the sky-ballet golfrisbee. As shown in FIG.4, the cap 131L is the punched through cap. For the punched through type cap, the launching angle can be increased a lot. Furthermore, the sky-ballet golfrisbee 1 can be made much thinner. It can reduce the drag force. The flying distance can be much farther. As shown in FIG.5 the wing segment 17 is optional to be removed to be a sky-ballet golfring. As shown in FIG.6, the sky-ballet golfrisbee has only one right hand cap to minimize the air drag. To have the weight balance, the air bubble 13b is embedded in the golfrisbee body on the opposite site of the cap. The volume of the air bubble is the same as the volume of the cap.

The screw mechanism of golfrisbee is a complicate mechanism. It needs the lubricant to reduce the static friction. The initial static friction causes the uncertainty during the golh club swiveling process. To have the consistent swiveling process and expected result, the lubrication is needed to eliminate the stick force of the initial static friction. Furthermore, as the golfrisbee falls on the ground, the dirt sticks to the screw of the cap. It will cause the inconsistent swiveling result. So, the cap 13 of the sky-ballet golfrisbee is needed to be checked and cleaned quite often.

As shown in FIG.7, in the field operation, we use the static friction controller 7. It has the three processes to be integrated in one device: the air compression, the air clean and the lubricant application. The static friction controller is constituted of the compressing cylinder 70, the switching block 71, the spraying nozzle 72 and the container 74. The lubricant 75 is stored in container 74. The cap 742 is to seal the lubricant 741 entrances. The spraying nozzle 72 is mounted on the top of the sliding cylinder 70. The sliding tube 70 can be fit in the hole 722. The cavity 723 guides the fluid into the nozzle 720. The hole 721 is to fit for the spraying tube. As the

finger presses on the spraying nozzle 72, the sliding cylinder 70 slides downward as shown in the FIG.7B. The one-way compression piston 7021 moves upward to seal the conduit. The one-way compression valves 714 moves downward to allow the air to be sucked into the conduit 713. The air inside the switching block compartment 716 is forced to flow out into the container 74. As the finger is released, the sliding cylinder 70 moves upward under the air pressure in the compartment 716. The air inside the conduit 713 is compressed and the one-way valve 714 is closed. As the air pressure inside the conduit 713 is larger than the air pressure in the compartment 716, the one-way valve 7021 moves downward and the compressed air flows into the compartment. Repeating the process as shown in FIG.7A and FIG.7B reciprocally, the air pressure inside the container 74 is built up.

To use the compressed air to clean the cap of the golfrisbee or the screw of the golh head, as shown in FIG.7C, the finger holds the sliding tube at the position to have the conduit 701 to align with the hole 711 on the wall of the switching block 71. The compressed air flows through the hole 711, the conduit 701, the cavity 723, and the nozzle 720. The compressed air blows on the cap or screw to blow away the dirt. As the dirt is cleaned, the golher can apply the lubricant 75 to the cap or screw. As shown in FIG.7D, the finger holds the sliding tube 70 at the position to have the conduit 701 to align with the hole 712 on the wall of the switching block 71. The lubricant 75 flows throw the hole 712, the conduit 701, and the cavity 723 and the nozzle 720. The lubricant 75 sprays on the cap and screw to lubricate the cap and screw..

Depending on the distance between the threads of the screw, there are many different golh club heads. Therefore, the golher may carry several golh clubs. However, to carry the golh bag walking

on the snow is not so easy. So, the trolley is needed. As shown in FIG.9A, the golh trolley 5 is mounted on the axle 500 of wheels 50. The foldable handle 51 pulls the frame 52 to drag the golh trolley 5 forward. The supporter 55 is hinged to the ear 520 on the frame 52 with the pivotal axle 550. The golh bag 4 is leaned against the frame 52. FIG.9B shows the golh bag being integrated with the portable trolley 5a. To ski on the snow, as shown in FIG.9C, the trolley 5 is mounted on the snow ski 901. To ski on the snow and run on the road, as shown in FIG.9D, the trolley is mounted on the belt wheel 501. The belt wheel is composed of two wheels 5011 and 5012, belt 5013 and triangle structure 5014. The trolley 5 is pivotally mounted on the top node of the structure 5014.

To play the night golh in the desert or the snow golh in the heavy snow northern place, the golher has to ride on the cart. In the desert, during the day, the temperature is too high to play golh. The only time to play golh is in the night. However, in the night, the snakes come out, too. To minimize the accident, the golher has to ride on the golh cart. In the heavy snow place, the snow depth can be very deep. It is impossible for the golher to ski to drag the golf trolley. The golher has to ride on the golh cart, too.

There are two kinds of cart. One is three-wheel golh cart 8 as shown in FIG.10. The golher can stand on the golh cart 8 to drive the golh cart. The golh cart is a foldable and portable golh cart. Releasing the extension lock 821, the length of pole 82 can be adjusted. The pole 82 is foldable with the pivotal joint 830. The technique for the golh cart adopts our former patent US5, 474,144 Twin-Wheel Motor Car with Differential Height and Speed Mechanism. It needs only one motor to drive the twin- wheels 80. Since it is the three wheels, it does not need the complicate

self-balance circuits and control. It does not have the speed limit as the two wheel golh cart does. So, the cost becomes much cheaper and the speed is much faster. As shown in FIG.10C, the front wheel 86 is mounted on the support frame 82 with the axle 860. Rotating the handle 81, the frame 82 rotates which also causes the front wheel 86 to rotate to change direction. The twin-wheels have the differential mechanism to drive the wheels 86 to have the different speed during the turning direction. In FIG.10B, the support 85 pivotally rotates on the axle 850 to support the ear 820. The support 85 supports the frame 82. The golf cart is served as the standing bag and golh trolley.

To run on the deep snow in the golf course, the wheel can change to be the snow wheel 80s as shown in FIG.15. The wheel paddle 801 is at the end of the cylinder 802. The cylinder 802 is under the bias of the spring 803. As shown in FIG.15A, the snow wheel 80s rolls on the solid ground. The wheel paddle 801 is compressed to be the same circle as the wheel 80s. As shown in FIG.15A, the snow wheel 80s rolls on the snow. The wheel paddle 801 is expanded into the snow to serve as the paddle. The wheel paddle 801 expels the snow to drive the golh cart 8 forward or backward.

As shown in FIG.10D to FIG.10F, the golh cart 9 is further equipped with the automatic golh snow ski 9. As shown in FIG.12A and FIG.12B, the automatic golh snow ski 9 is raised up to run on the solid ground. As shown in FIG.12C and FIG.12D, the automatic golh ski 9 is lowered to support the weight of golh cart 9 to drive on the soft snow. The wheel can be changed to be the snow wheel 80s.

As shown in FIG.12B, there is a Z-shape guiding slot 910 notched on the guiding plate 91. The wheel axle 600 passes through the Z-shape guiding slot 910. The spring 92 connects between the axle 600 and the ski 9 to pull the ski forward to raise the ski 9. The spring 92 is constituted of two segments 923 and 924. The segment 924 has the hooked end 921 to hook the axle 600. The segment 924 has the hooked end 920 to hook the ear 923 of the guiding board 91. Under the compression force of the spring 92, the guiding plate 91 is pulled forward to raise the ski 9 up.

As shown in FIG.12C, the wheel rolls on the soft snow 95 and traps in the snow 95. The snow 95 contacts with the ski 9. As the wheel 60 rotates to drive the golh cart to move forward, due to friction, the ski 9 is left behind. The wheel axle 600 climbs up the slope of the Z-shape guiding slot 910 and forces the ski 9 downward to engage with snow 95 to support the weight of golh carts.

FIG.13 shows the installation of the snow ski without removing the wheel. As shown in FIG.13A, the wheel axle 600 passes the slot and presses the locking plate 912 downward. The locking plate 912 is pivotally mounted on the guiding plate 91 with the pin 9120. FIG13B shows the axle 600 is mounted in the guiding slot 910. FIG.13C shows the locking a plate is closed with the biasing spring. FIG.13D shows the hook 921 is attached to the axle 600 and the installation is finished. FIG.14 shows the lower slot of Z-shape guiding slot can make the extension to be the guiding slot 910e. The snow ski 9 can be folded to integrate with the golh cart or golh trolley.

FIG.11 shows the two-wheel golh cart. The golh cart is foldable and portable. Releasing the extension lock 621, the length of pole 62 can be adjusted. The pole 62 is foldable with the pivotal joint 630. The golh cart can be further innovated from the Segway of Dean L. Kamen et al's patents US5, 971,091 Transportation Vehicles and Methods and US6,302,230B1 Personal Mobility Vehicles and Methods. The supporting stick 65 is pivotally mounted on the frame 62 with the pivotal axle 650 passing the ear 620 of the frame 62. The two-wheel golher cart 6 is served as the standing bag as shown in FIG.11B. The snow ski 9 can be mounted as shown in FIG.12D, FIG.12E and FIG.12F. The wheel can be changed to be the snow wheel 8s, too.

FIG.18 show the self-locked portable golh bag for traveling golher. As shown in FIG.18A, the golf bag has the self-lock cap 43 being self locked with the golf bag 42. The handle 41 is to carry the golh bag 42 or to hang the golh bag 42 on the golh cart as shown in FIG.10. Under the biasing spring 431, the pressing plate 432 presses against the top rim of the golh bag 42. Under this pressure, the protrude 430 is locked in the notch 4210. To open the golh bag, press cap 43 downward, the protrude 430 moves downward to slide in the slot 421. Rotating the cap 43, the protrude 430 slides to the end of the horizontal segment of the slot 421. Lifting up the cap 43, the golh bag 42 is opened. As shown FIG.18B, the cap 43 can be held at the bottom of golh bag 42 to facilitate the carry of the golh bag 42. Sliding the protrude 430 into the vertical segment of the slot 422 and press the cap 43 upward. As the protrude hits the end of the vertical segment, rotating the cap 43 horizontally to the end. Releasing the pressure on the cap 43, under the biasing force of the spring 431, the pressing plate biases against the bottom plate of the golh bag 42. Under the biasing force, the protrude 430 is fit in the notch 422. The self-locked cap 43 is self-locked to the bottom of the golh bag 42.

To play the basedisc, we need the portable base. To play the golh in the park, we need the portable-putting hole. As shown in the FIG.19, it shows the universal portable hole base. It can be used as either the base in the basedisc or the putting hole in the park golh. The rolling golfball can roll upward on the inclined plane 452 and the plateau 451 into the hole 450. The flag 46 has the flag 461 to mark the number of the hole. The flag is inserted in the hole 450 of the base 45 with the stub 460 fitting inside the hole 450.

The swing of golh is different from the swing of golf. To launch the golfrisbee with the golh club, the swing speed and the swing pattern is very important. To train the golher to be familiar with the swing way of golh, as shown in FIG.20, the golh swing trainer 10 is important for the golh instructor. The golher stands inside the golher trainer and has the golher club 2 fit inside the swing glider 23s as the same position as the payload 23 shown in FIG.1. The handle 21s is fit at the position 21 shown in FIG.1. The Computer aided golh instructor 101 drives the solenoid tube 1022 located inside the tube 102 to rotate to drive the gliding stub 1021 and the swing glider 23s to slide. The swing glider 23s is to guide the correct swing speed of the golh club. In FIG.20D, it shows the alternative design of the guide. As the pulley 101p pulls the rope 1025, the guide 23s slides to move to guide the correct swing speed.

The golh simulator is the miniature of the portable wheel balance machine. Instead of balancing the wheel, we apply the same principle and mechanism to measure the rotation of the golfrisbee 1. The golher can easily check the simulating results of flying distance, launching angle, launching speed, and flying direction on the LCD screen. Furthermore, the golher can adjust the

parameter of the viscosity of the lubricant, the starting angle, the launching angle of the screw, etc to find the optimum swing pattern for himself. With the golher simulator, the golher does not need to go through the tedious "launching and walking, trial and error" process and improve his techniques systematically.

FIG.21 is the golh simulator 11. The golfrisbee 1 is mounted on the rubber wheel head 111. The rubber 1111 envelops around the steel drum 1110 to be the rubber head. Any golfrisbee cap 3 can easily fit on the rubber wheel head 111. As the golher swings the golher club, the sensors 113 and microprocessor 114 of balance mechanism record and analyze the dynamical behaviors of the golfrisbee. The dynamics results are shown on the LCD display. The LCD display 112 is mounted on pole of the golf club.

The golfrisbee is made of the composite material to be one single piece. Furthermore, the golfrisbee has the screw. Therefore, the mass production manufacture process is very important to the golh industry. As shown in FIG.22A, the manufacture of making golh club and golfrisbee module is highly complicated four step process. In the first step, the golh club head locking screw 35, launching stubs 34 R and 34L are cast with model. As shown in step 2, the locking screw 35 is put in the club head module to cast the golh head with the locking screw 35. As shown in step 3, the launching stubs 34 R and 34L are put in the golfrisbee module to cast the golfrisbee with the launching screws. As shown in step 4, the golfrisbee is put in the skirt module to have the skirt 16 cast to be one unit with the golfrisbee 1.

FIG.22B shows the assembly process of the golh club and golfrisbee. In Step 5, the handle, golf club head, golf club pole and golf launching stub are assembled to be the golh club. In Step 6, the payload 124, screw 123 and golfrisbee body are assembled to be golfrisbee 1. In step 7, the golfrisbee 1 is mounted on the launching screw stub and is ready for launching test.

While the invention has been particularly shown and described with reference to the preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention.